

Olympic Activity Cards

Mirror, mirror, on the wall ...

Science
Design & Technologies

What happens when you cross a bright light with a curved mirror? Get it right and you could be bearing the Olympic Torch to the Games.

Your task:

- Find out what a *parabola* is. Draw one in your workbook.
- What is a parabolic reflector? Draw a diagram showing how it works. Label the parts.
- Find out how a curved mirror is used to light the torch at Olympia. Can you find any other famous examples of using parabolic mirrors to create fire?
- What are the modern uses of parabolic reflectors? Find and describe at least three.

Extension:

Design a garden sculpture including a parabola somehow in the design. Does your sculpture have a function as well as a beautiful form? If so, what is it?

For the teacher

Curriculum links:

Science: (Physics) Students understand that energy can be transferred and transformed from one form to another.

Design & Technologies: Humans use observable properties of nature to design and build technologies.

The Olympic Torch is lit by means of a parabolic reflector at Olympia and carried to Athens, from where it is transported to the host nation for the current games. The torch is lit not by technological means but by the light of the sun – a fascinating case of using an observable property of light and ancient technology in the modern world. (See the PDF resource at www.olympic.org/Documents/Reports/EN/en_report_655.pdf for an image of this.)

Famously, in Ancient Greece, the mathematician and inventor Archimedes was said to have used parabolic reflectors to shoot burning rays of light at attacking ships. The popular science TV program Mythbusters investigated this myth three times and this clip of their experiment with MIT students may be useful: <http://dsc.discovery.com/videos/mythbusters-death-ray-revisit-minimyth.html>.

Modern uses of parabolas include amplifiers, satellite dishes, solar cooking devices, spotlights, car headlights, telescopes and many other technologies.

Tower of Babel

Languages Design & Technologies

In 2012 there are 216 nations sending athletes to London to the Olympic Games. Find out how the International Olympic Committee and the National Olympic Committee (in the host nation) ensure everyone can communicate.

→ For example, the organisers usually use simplified icons representing each of the sports, called 'pictograms'.



Write your answers to these questions:

- How many official languages are spoken at the Olympics? What are they?
- Who needs to communicate with each other? List all the people involved, not just the athletes.
- What would you want to know if you were an athlete arriving in a foreign country for the Olympic Games?
- What are some solutions host nations have come up with now and at past games?

Optional extensions:

In your language of study, write a welcome letter to athletes describing your city as if it was the host of the Olympic Games.

What will visiting athletes want to know about and to see while they are here?

Decorate, plan and run a kitchen class as if it were the Olympic Athletes' canteen. Can you translate menus, provide waiters who speak different languages and devise pictograms for each dish?

For the teacher:

Curriculum links:

Languages: Learners develop an understanding of the relationship between language and culture in intercultural exchange.

Design & Technologies: Design and technological solutions enable people to find solutions to problems.

The diversity of languages at the Olympics is incredible. It's compounded when you consider not just athletes but coaches, caterers, medical staff, media, transport staff, security, accommodation, audiences from around the world, tourists, venue staff and volunteers, to name just a few.

The official languages of the Olympics are English and French, plus the main language of the host nation. In Beijing in 2008, all announcements were made in English, French and Mandarin Chinese. Communication needs are met through a variety of means, including professional interpreters, multilingual volunteers, multilingual printed information, digital information booths, symbols and icons (pictograms). Older students might view this design video to inform their ideas: Olympic Pictograms Through the Ages. It is a designer's perspective on effectiveness or otherwise of the sport icons (pictograms) from Olympic Games over the years.

www.nytimes.com/interactive/2010/02/24/sports/olympics/pictograms-interactive.html

Golden Rings

Design & Technologies

Find an image of the Olympic Flag. What do the white background and the five coloured rings in the Olympic logo stand for?

Your design task:

- Create your own logo for a universal sporting event. Will the colours you use have special meaning? What images or symbols will you include? What values do you want to convey?
- Consider how your logo will read at a distance, on a fluttering flag, in black and white or a single colour. Create the colour version, black and white and grey versions.
- Provide sketches or digitally created images of your concept. Write your explanation of the concept and a paragraph on your design solutions for the design problems above. Present the drafts of your logo, your written work and the final version of your logo.

Extension:

Provide a version of your logo as a flag to fly in the garden.

For the teacher

Curriculum links:

Design & Technologies: Students develop skills in using graphic techniques to communicate and represent ideas and solutions, and document processes.

The white background of the Olympic flag represents universality and peace through sport. The five rings represent the five continents of Africa, Asia, Oceania, the Americas and Europe. (The sixth continent would be Antarctica, but when the Games were reintroduced in 1890 Antarctica was not commonly considered a continent.)

There is a useful section of FAQs about Olympics Symbols and Emblems on the official Olympic website: <http://registration.olympic.org/en/faq/index>. Your students might appreciate the video called Olympic Pictograms Through the Ages:

www.nytimes.com/interactive/2010/02/24/sports/olympics/pictograms-interactive.html.

Fire for Strength

English History

According to the Ancient Greek myth, Prometheus stole fire from Zeus and gave it to humans. 'For I am he who hunted out the source of fire, and stole it, packed in pith of a dry fennel stalk.' (Aeschylus, *Prometheus Bound*)

In Northwest Canadian mythology, Raven stole the sun, moon, stars, water and fire from Grey Eagle. What is the Russian Firebird tale? How is a phoenix born? What legends about fire are told in Australia? Fire relates to symbols of life, power, clarity, rebirth, sacrifice and strength in a variety of cultures.

Your task:

- Read one or more myths from different cultures about fire.
- Why is fire important? Write your response.
- What part does fire play in the Opening and Closing Ceremonies of the Olympic Games?
- What is the Olympic Flame and what does it symbolise? Given what you know about fire in myths, what relation does this have to the symbolism of the Olympic Flame?

Extension:

Find out about fire's role in nature and what this means to the history of Australia.

For the teacher

Curriculum Links:

English Literature: Students understand, appreciate, respond to, analyse and create literature.

History: Students explore examples of continuity and change in relation to a longstanding event.

Fire is an important symbol in many cultures and particularly so in Australia. Choose Indigenous myths from Australia and/or from around the world.

This activity might lead to student writing using imagery, metaphor and simile – to the appropriate level for the age group.

A free teachers' resource from the Olympic Museum may be useful. It covers some of the meanings of fire and the origins of the Olympic Torch relay, the lighting of the flame and other aspects:

www.olympic.org/Documents/Reports/EN/en_report_655.pdf

Get set, go!

Health & Physical Education

Competition sports – such as the forms of sport practised at the Olympic Games – conform to internationally agreed rules. There are rules about the size and design of the equipment, how athletes start, finish and score.

Your task:

- Choose a sport from the list of 35 official Olympic Games sports.
- Write a summary of the equipment and history of this sport.
- Do you play a version of this sport at school? If you do, prepare a one-minute presentation on the differences between this sport at school and this sport in the Olympics.

Challenge question:

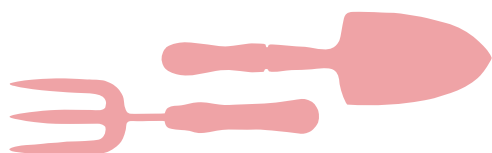
Are there sports that people would like to be included in the official Olympic Games list of sports? How do they request them?

For the teacher

Curriculum Links:

Health & Physical Education: Students link the place and meaning of physical activity and sport in their own lives to local, national and global sporting activity.

This activity does rely a great deal on the material to be found on the official Olympic Games website, so you will need access to computers for those students who undertake this card. On the website www.olympic.org/sports students can select a sport and view the equipment and history of this sport. There are videos and interesting facts. Most of the material is written for an upper primary reading level, so it should be appropriate. An alternative would be to watch footage of an Olympic sport that you play at your school and to discuss and act out the differences students see, as you play the game.



Conflict and Competition

History

What would happen if two countries were at war and they both sent athletes to the Olympic Games?

Your task:

- *What is the Olympic Truce?*
- *Research and write a definition of the truce, and explain how it started.*
- *When was it revived in modern times and what does it mean for the Olympics today? Is a truce an important aspect of the Olympic Games?*
- *What is the link between the United Nations (UN) and the Olympic Games?*

Extension:

What are the values of the Olympic Games? Why might they be relevant to your school?

For the teacher

Curriculum links:

History: Students develop an awareness of justice and fair play, and examine an example of continuity and change. This activity supports critical thinking skills through interpretation of events and motives.

The ancient Olympics were conceived as an event that would encourage healthy competition through sport as an alternative to war. The ancient Olympic games required all participating nations to agree to a truce, to enable safe passage for all athletes attending the games. The idea was not a part of the revival of the Olympics in 1894 but began to be explored from 1992 onwards. Nations participating in the Olympic Games now sign the Truce, which declares they will cease conflict from seven days before the opening of the Games until seven days after the closing of the Games. There is a formal partnership between the United Nations and the Olympics, which is why the UN flag flies at all Olympic venues for the duration of the Games.

An excellent film from the 2012 Olympic Games education website explains the origin of the Olympic Truce: <http://getset.london2012.com/en/get-set-goes-global/get-set-for-the-olympic-truce>

A factfile for students explains the details: http://getset.london2012.com/assets-uploaded/documents/Olympic_Truce_fact_file.pdf

There is also a set of teacher activity ideas and discussion prompts for primary students relating to the Truce and to ideals of inclusiveness, peace and harmony: http://getset.london2012.com/assets-uploaded/documents/Olympic_Truce_primary.pdf

The peaceful nature of the Olympics is not always preserved. Older and able students might research how the Olympics have been affected by political and social movements, or how conflict and international events have led to boycotts or conflict at the Olympics in the twentieth century. They might write an essay explaining how sports sublimate aggression and conflict through healthy competition.

Medal Mathematics

Mathematics

Many countries enter the Olympic Games. The competition between countries for medals in the many events is severe. During the Games, media from all over the world report on the medal tally, providing charts and updates daily or weekly to their readers.

Your task:

- Choose a country – somewhere you have heard of, a language you are studying, or a place your parents or grandparents came from.
- Find out that country's medal tally (total number of medals won) in the Summer Olympics in these three years: 1988, 1996, 2004.
- Design a chart to represent the data you have gathered.
Can you trace the improvement or otherwise in your chosen country's performance?
- Choose one sport and do the same for Gold, Silver and Bronze medal winnings in this sport in the three years listed.
- When the Olympics begin this year, update your charts to show how your country is performing.

Challenge question:

Is winning medals the whole purpose of the Olympics? Why or why not?

For the teacher

Curriculum links:

Mathematics: Students collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies.

The focus of this activity is on data representation through charts and graphs. The interval of eight years between each of the data points means that data for 2012 will fit into the data sequence.

Extensive tables of data can be found in numerous places online. Aggregated medal data per country can be found on Wikipedia at http://en.wikipedia.org/wiki/Athletics_at_the_Summer_Olympics.

The official Olympic organising committee website has data on each country and medal counts going back as far as that country's participation. Visit www.olympic.org and click on 'Countries' to view filters or a map. The disadvantage of the official site is that you can only filter to data for one country at a time.